Hazard Mitigation Grant Program

FEMA-1361-DR-WA (Nisqually Earthquake)

Initial Second Round Funding Recommendations

November 2002

The following projects are being recommended for funding consideration by the Federal Emergency Management Agency (FEMA) based upon meeting all eligibility criteria as established in 44 CFR, the State Hazard Mitigation Strategy, and as identified in the Application Development Guide--HMGP Applicant Appeal Process. The Mitigation Grant Review Committee, consisting of state, federal and local representatives, evaluated a total of 28 applications against a set of weighted criteria. The following 10 applications listed received a sufficient score to be ranked within the available funding for the second round. Additionally, using FEMA criteria for set aside funding, a grant with DNR to do seismic mapping and 21 local hazard mitigation planning grants will be offered. Each jurisdiction receiving a grant will be required to submit a mitigation plan in accordance with 44 CFR 201.6 or 44 CFR 201.4 for state agencies.

Please congratulate these communities in their mitigation efforts.

- ✓ Please note that the State Hazard Mitigation Office does not endorse or recommend contractors or consultants.

City of Port Townsend—Public Safety Facility

Project costs: $2,039,515 County: Jefferson

This project proposes to reconstruct the existing Port Townsend Fire Station to incorporate EMS, an EOC and enhanced communications capability, as well as a temporary government operations center should other buildings become uninhabitable. An existing residential building, used to store fire equipment is to be removed for surplus, allowing for expansion. Timeframe: December 2002-July 2004

City of Seattle—Low-Income Seismic Home Retrofit

Project costs: $1,000,000 County: King

This project proposes to seismically strengthen approximately 160, low-to-moderate income homes, many owned by the elderly and disabled. Eligible homes would be those constructed prior to enactment of codes to bolt foundations, floors and frames and may include reinforcing sheer walls, minor foundation repairs and securing water heaters. Timeframe: February 2003-February 2005

Highline Water District—Reservoir Seismic Retrofit

Project costs: $269,424 County: King

This project proposes to seismically retrofit, with flexible piping and connections, to ensure the structural integrity of three reservoirs which are located in the highly urbanized area of Sea-Tac and Federal Way near residential and commercial properties and major thoroughfares. The flexible connections will help safeguard fire protection and public health by reducing or eliminating the impact to the regional water system. Timeframe: December 2002-March 2004

Skyway Water and Sewer District—Storage Tank Seismic Retrofit
Project costs: $608,136 County: King

This project proposes to seismically retrofit three water reservoirs which have a combined storage of approximately 575,000 gallons. Tank 2 is elevated steel and Tanks 3 and 4 are steel reservoirs on slabs--each requiring anchorage and structural strengthening. The anchorage will safeguard fire protection, sanitation, and public health, by reducing or eliminating the impact to the regional water system and potential for release of chlorinated water or gas, as each reservoir is located in residential and major waterway areas, as well as protecting the Valley Communications/South King County 911 emergency communications facility. Much of the service area is characterized as low income. Timeframe: December 2002-January 2004

City of Centralia—Residential Home Elevation
Project costs: $253,380 County: Lewis

This project proposes to elevate seven homes with crawl spaces as the continued effort to mitigate the 600 (135 to date) homes that experienced flood damage within Centralia's corporate limits as the result of the February 1996 flood. Previous homes elevated were found to not have foundation damage as the result of the Nisqually Earthquake. All homes are within the Skookumchuck or Chehalis River floodplains, which when elevated, would reduce or eliminate potential household chemicals from entering the floodwaters. Timeframe: December 2002-December 2004

South Bend School District—Elementary School Seismic Retrofit
Project costs: $499,024 County: Pacific

This project proposes to remove hazardous bricks, glass blocks and nonstructural walls and strengthen the walls of the cafeteria/multi-purpose room. This is an economically distressed community. Any disturbed soil areas will be restored. The facility is designated by the American Red Cross as a preparation and feeding location. Timeframe: December 2002-September 2003

Snohomish County—Chatham Acres Acquisition
Project costs: $1,899,000 County: Snohomish

This project proposes to acquire and remove ten homes from the floodway of the North Fork Stillaguamish River, enhancing fish and natural habitat. A dramatic change in river course (i.e., avulsion) occurred in December 1999 during a frequently occurring, small, 3-year flood event. The river is changing course, placing homes and people at risk on a more frequent basis. All disturbed soil areas will be stabilized. The properties will be designated as permanent open space with future use limited to passive recreation, flood water retention, and habitat enhancement. Timeframe: December 2002-July 2004

Providence Health System—St. Peter Hospital NW Tower Seismic Structural Retrofit
Project costs: $2,245,162 County: Thurston

This project proposes to stabilize the lateral load of the NW Tower housing the Fitness Center/Cardiac Rehab Unit, Family Birth Center, Intensive Care Unit, Coronary Care Unit, Post Anesthesia Care Unit and administrative offices by adding shear walls and braced frames to strengthen the structural integrity of the tower. Providence St. Peter Hospital is a Level III trauma center. There will be limited soil disturbance and minor relocations within the hospital grounds to facilitate this retrofit. Timeframe: December 2002-May 2004

Tumwater School District—Littlerock Elementary Seismic Retrofit
Project costs: $875,535 County: Thurston

This project proposes to strengthen and tie walls with the roof system of the multipurpose building which can be used as a community emergency shelter and is used as a community center. Existing earth berm will have footing drains incorporated around the perimeter of the building. Timeframe: December 2002-October 2003

Whatcom County—Canyon Creek Alluvial Fan Acquisition
Project costs: $999,100 County: Whatcom

This project proposes to acquire and remove four residential homes and the Logs Resort with seven structures from the active alluvial fan area adjacent to Canyon Creek in partnership with the Whatcom Land Trust. There are active, large landslides, debris dams and high velocities making this a high hazard area. All disturbed soil areas will be stabilized. The current levee would no longer provide residential protection. The properties will be designated as permanent open space with future use limited to passive recreation, flood water retention, and habitat enhancement. Timeframe: December 2002-November 2003

CRITERIA
The proposed applications were selected by the Review Committee using the following criteria (excerpt from the HMGP Application Development Guide, Appendix 4). If one of the proposed applications withdraws or funding becomes available, a number of factors are considered, including the amount of grant funds available.

III. CRITERIA FOR SELECTION

The project must meet federal eligibility criteria referenced in CFR 44 206.434. To be eligible, the project must demonstrate that it:

A. Conforms with the State Hazard Mitigation Plan and a local mitigation plan (322/201.6).
B. Has a beneficial impact on the disaster-affected area.
C. Conforms with Executive Order 11988 on Floodplain Management, and Executive Order 11990 on Protection of Wetlands. (See CFR 44, Part 9 and/or Part 10.)
D. Solves a problem independently or will be a functional part of a solution with assurance that the whole project will be completed. (Projects that merely identify or analyze the hazard or problem are **not eligible**.)
E. Will be cost-effective and **substantially** reduce risk of future damage, hardship, loss, or suffering. This must be demonstrated by documenting that the project:
    1. Addresses a repetitive problem, or one that poses a **significant** risk to public health and safety if left unsolved.
    2. Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur.
    3. Has been determined to be the most practical, effective, and environmentally-sound alternative after consideration of a **range** of options.
    4. Contributes, to the extent practicable, a long-term solution.
    5. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

Hazard Mitigation Grant Program

FEMA-1361-DR-WA (Nisqually Earthquake)

First Round Funded

The following projects were funded by the Federal Emergency Management Agency (FEMA) and the state of Washington based upon meeting all eligibility criteria as established in 44 CFR, the State Hazard Mitigation Strategy, and as identified in the Application Development Guide--HMGP Applicant Appeal Process. The Mitigation Grant Review Committee, consisting of state, federal and local representatives, evaluated a total of 20 applications against a set of weighted criteria. These 15 applications received a sufficient score to be ranked within the available funding for the first round. Two additional projects withdrew from consideration.

Clark College – Structural Seismic Retrofit

Project costs: $1,493,070 County: Clark

Structural seismic retrofitting in seven buildings on the Clark College campus.

- Gaiser Hall and O'Connell Sport Center Hall – remove existing roof and install plywood to roof to develop a complete structural diaphragm, replace roof membrane. Shear wall anchorage and addition of plywood to existing shear walls. Add plywood to existing diagonal sheathed shear walls. Install retrofit brick veneer anchors.
- Anna Pechanec Hall – Add plywood shear walls from the second floor to the roof. Apply shotcrete to both unreinforced masonry end walls; removing and replacing finishes, as required. Removing existing roofing, installing appropriate straps/anchors and re-roof.
- Applied Arts Buildings 1, 2, 4, and 5 – install retrofit brick veneer anchors.

Douglas County – Sand Canyon Floodway Stabilization

Project costs: $1,083,580 County: Douglas

Project is being phased with an engineer design to ensure feasibility. 1st Phase Cost: $110,000
This project is designed to ease the impact of uncontrolled floodwater on downstream properties and the channel itself. Two detention ponds are proposed to detain and meter discharges into the Sand Canyon channel. In addition, channel stabilization structures will be incorporated to reduce erosion and maintain capacity within the existing channel. In order to reduce the erosion and stabilize the landslide, a buttress wall is to be constructed at the toe of the landslide.

City of Aberdeen Fire Department – Headquarters Fire Station Seismic Retrofit--*Complete*

Project costs: $37,622 County: Grays Harbor

This project will seismically retrofit the main headquarters fire station truck bay overhead girders with seismic connectors to ensure positive wall-roof connection in the event of a large earthquake. Local contractors would be used to perform the work to the building. Holes would be drilled into the existing structure and the metal retaining ties would be installed as per the engineer requirements. A local overhead door contractor would be used to install the seismic sensor mechanism for the five overhead bay doors in the station. Hazard Mitigation Plan to complete.

City of Seattle – Queen Anne Drive Bridge – Seismic Retrofit

Project costs: $1,200,000 County: King

The Queen Anne Bridge is in danger of suffering severe damage or a catastrophic failure in the event of a major earthquake. To protect the bridge and its many users from damage and injury and to keep this important link between the Queen Anne community and State Route 99, Seattle Transportation is proposing to seismically retrofit the bridge. Structural retrofit will strengthen the North Queen Anne Drive Bridge to withstand seismically induced ground accelerations and forces resulting from a design-level earthquake for the Puget Sound Region.

Highline Water District – Reservoir Seismic Retrofit
Project costs: $2,040,480 County: King

The project encompasses structural retrofit of four existing storage reservoirs. These facilities contain a total of 2.75 million gallons of emergency and operating storage for the District. This is critical for the District's ability to provide uninterrupted domestic water and fire protection service to the 65,000 people served by this District. In general, it includes installation of new grade beams and replacement of column bracing on the Mansion Hill 250,000 and 1 million gallon elevated water storage tanks and at the 500,000 McMicken Heights Elevated tank. Upgrade of the pipe anchorage and installation of flexible piping at the District's Bow Lake storage reservoir is also included in this project.

King County – Cedar River High Priority Buyouts
Project costs: $899,660 County: King

This project proposes to acquire and remove three homes from the floodway of the Cedar River. The Nisqually Earthquake caused a landslide that changed the river dynamics causing flood damage to these homes on a more frequent basis. All disturbed soil areas will be stabilized. The properties will be designated as permanent open space with future use limited to passive recreation, flood water retention, and habitat enhancement.

King County --Harbor View Medical Center Elevators
Project Costs: $223,100 County: King

This project will seismically retrofit several elevators to ensure the medical center has safe egress.

King County Water District #90 – Seismic Retrofit of 4.75 mg Steel Reservoir
Project Costs: $625,000 County: King

This project will seismically retrofit the District's 4.75 million gallon (mg) steel reservoir #1 by improving the concrete footing, installing steel anchors, and bracing. Additionally, this project will install a valve that will automatically close when a large seismic event and/or a high flow rate from the tank are measured within a short time frame.

Lake WashingtonTechnical College – Shop Seismic Retrofit
Project Costs: $107,100 County: King

This project will seismically retrofit several interior walls to ceiling in areas used for offices and classrooms.

Lakehaven Utility District – Reservoir Seismic Retrofit
Project costs: $170,593 County: King

This project will seismically retrofit the Utility's reservoir by adding three new components: anchors, a concrete ring wall, and friction piles. The anchors will be headed studs welded to the side of the tank, uniformly spaced around the perimeter of the tank. They will be ¾" diameter by 6' long studs placed at 6" on center vertically and 12" on center horizontally, totaling about 750 anchors. A new ring wall will be cast around the perimeter encasing the headed studs to provide the desired anchorage and stabilizing tie downs. The wall will be about 4 feet wide and 7 feet tall. The overturning will be prevented by friction piles that are evenly spread along the perimeter and encased within the ring wall. There will be 12 piles, each 18" diameter and at least 30 feet long.

Onalaska School District – Retrofit High School/Red Cross Shelter
Project costs: $647,757 County: Lewis

This seismic retrofit project will include removing the current roof with overhang of 4 feet with the main cross support wood beams being retained. Re-bar would be placed in column openings in the brick and the columns would be filled with concrete to add seismic stability and load displacement in the outside bearing walls as well as the interior walls that already show cracking from the recent seismic event. A pitched roof would then be installed over the building to displace the seismic loads to the bearing walls and away from the center loaded cross beams. This action would remove the danger of weight loading from shaking, water, ash, or snow on the current flat roof surface and bearing walls.

City of South Bend – New Fire Station and City Hall
Project costs: $460,209 County: Pacific

This project will replace an unsafe building which currently house's the fire, police, courts and related administrative functions with a complex that will meet all current standards, seismic, wind shear, health, and ADA. The new building complex will be constructed on downtown, city-owned property, and will only involve the city's structures: the present fire hall, public safety facilities, public works and administration and a small, unoccupied city-owned building. Using a spread-footing and elevating the public safety building high enough to allow sufficient crawl space for mechanical service installations and being able to adjust for settling. This will eliminate many of the difficulties related to the slab-on-piling construction used in the current complex. There are no adequate leaseable buildings in the city, therefore constructing the complex in two stages will allow these offices to occupy the present building until the new one is finished.

Pend Oreille PUD #1 – Electric Utility Overhead Power Line Relocation
Project costs: $481,548 County: Pend Oreille

The current electric distribution line was constructed "as a crow flies" or "cross county." This type of construction can be dangerous, inefficient, and uneconomical for the duration of the circuit life. The district wants to install main tap electric distribution circuit lines in areas that are readily accessible, such as along roadways and highways. The district wants to make the lines more accessible to electric line crews for refurbishing to both reduce excessive repair costs and electric service outage times to the affected customer. A previous HMGP funded project in this area greatly reduced the impacts of the year 2000's snow and ice storms on rural residents of this county.

La Conner School District #311 – Auditorium/Cafeteria/Elementary Seismic Upgrade
Project Costs: $702,658 County: Skagit

This project will seismically retrofit several critical elements of the La Conner Elementary School building complex. This project will re-anchor masonry veneer, install plywood sheeting over existing walls, brace CMU knee wall, and other actions to ensure the safety and well being of individuals utilizing the school's facilities.

La Conner School School District – Old Middle School Upgrade
Project Costs: $400,238 County: Skagit

This project will seismically retrofit the District's Old Middle School.

List of Hazard Mitigation Planning Grants Awarded in 2002

The following local jurisdictions have been offered funding to produce a hazard mitigation plan to meet the requirements of 44 CFR 201.6 to ensure their eligibility for hazard mitigation funds in the future.

Benton County
Benton Irrigation District
Bethel School District
City of Centralia
City of Chehalis
City of Kalama
City of Richland
City of Seattle
City of Snoqualmie
City of South Bend
Clallam County
Clark County
Clover Park School District-400
Douglas County
Ferry County
Highline Water District
King County
Kittitas County Water District-4
Newport School District
North River School District
Pend Oreille County Public Utility District-1
Pierce County
Skagit County Diking District-12
Skyway Water & Sewer District
Thurston County
Whatcom County Fire District-11

For additional information, please contact the State Hazard Mitigation Office at (253) 512-7073 or m.best@emd.wa.gov.